

33 Manufacturing, Development, and Research sites in 14 countries.



**Product and Service Diversity**

91,000 Employees



\$81.7 Billion in Revenue in 1998

**World's Largest Information Services Company**



IBM provides customer solutions through the use of advanced information technology. These solutions include technologies, systems, products, services, software and financing.

## Awards

- EPA's 1998 Climate Protection Award (First Year)



Computer Partner of the Year

**1998 and 1999 ENERGY STAR Computer Partner of the Year**



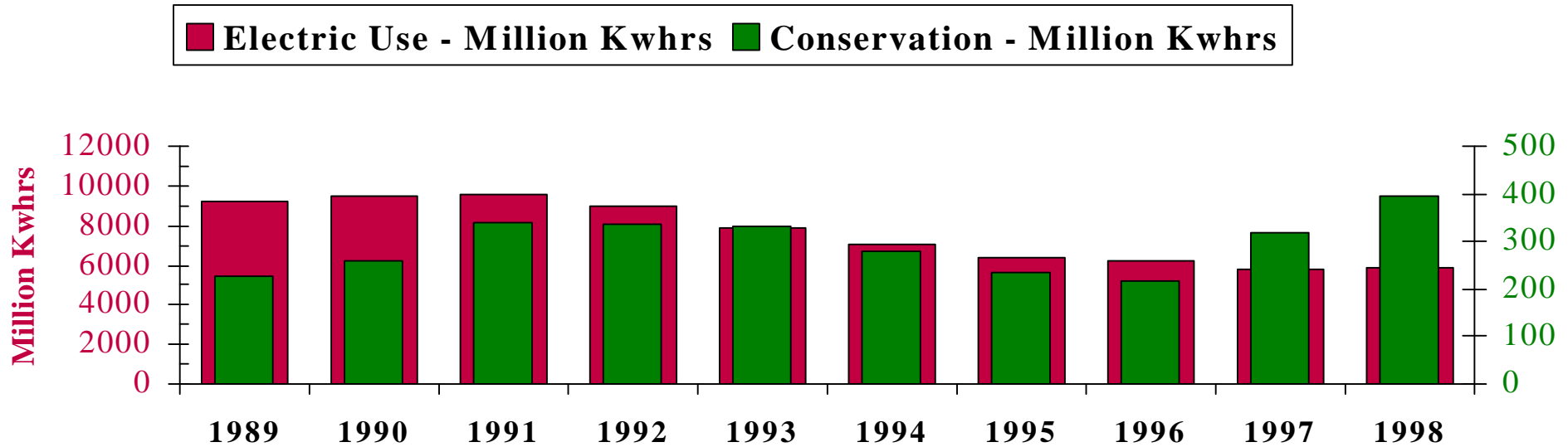
★ **1998 Star of Energy**

# **IBM Energy Programs**

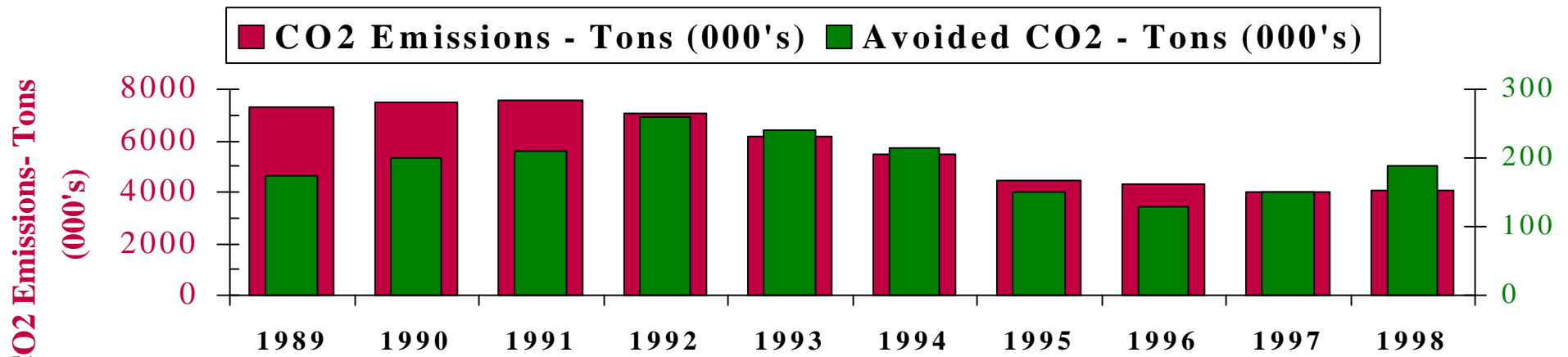
- **Environmental Policy (139)**
- **Corp Instruction (108)**
  - **Major sites to have designated energy managers**
  - **Approved Annual Site Energy Master Plans**
  - **Quarterly Energy Metrics for M&D sites**
- **Energy is a primary test in Internal Audits**
- **Energy is a significant aspect of ISO-14001**
- **4% Energy conservation goal (cost-based to use-based)**
- **Support CEA's recognition programs**
- **Get External Recognition**
- **Climate Wise Partnership & Voluntary Greenhouse Gas Emissions Report**

# IBM Energy Conservation Program Results - 1989 to 1998

## (Electricity & CO2 Emissions - Use & Savings data)



	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Electric Use - Million Kwhrs	9245	9522	9553	8948	7871	7068	6412	6187	5820	5898
Conservation - Million Kwhrs	228	260	340	335	333	278	233	216	317	395



	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
CO2 Emissions - Tons (000's)	7295	7514	7538	7059	6137	5475	4437	4286	4031	4085
Avoided CO2 - Tons (000's)	175	200	210	260	240	215	150	128	150	188

# 1998 ENERGY DATA FOR IBM - US M&D LOCATIONS

## (U.S. Sites)

## Energy Conservation Data

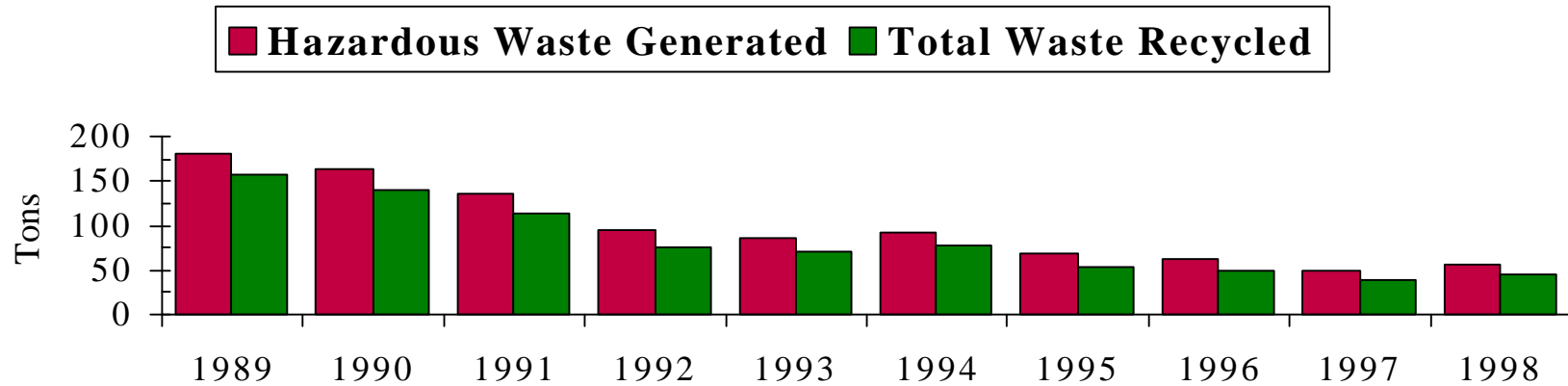
Site	Electricity Usage (000) KWhrs	N. Gas+FOil Usage (MMBTU)	Electricity (000) KWhrs	Fuel (MMBTU)	% 98 Use %
ALMADEN	26,063	26,288	1,343	1,194	5.1
AUSTIN	156,111	461,031	8,505	40,000	5.9
BOULDER	140,449	311,179	25,472	6,447	16.4
BURLINGTON	465,522	837,170	32,258	42,240	6.8
CHARLOTTE	64,155	65,098	3,337	2,515	5.1
EAST FISHKILL	397,800	1,257,200	23,650	88,000	6.1
ENDICOTT*	175,725	1,261,508	13,171	79,000	7.1
POUGHKEEPSIE	257,303	435,462	14,516	0	5.0
RALEIGH	255,579	217,694	10,810	0	3.9
ROCHESTER	144,949	532,703	6,839	29,775	4.8
SAN JOSE	294,017	596,271	13,938	0	4.1
SANTA TERESA	35,762	0	0	0	0.0
WATSON*	63,607	189,144	3,099	11,395	5.0
TUCSON	33,988	24,872	1,958	0	5.6
<b>Total US M&amp;D Sites</b>	<b>2,511,030</b>	<b>6,215,620</b>	<b>158,896</b>	<b>300,566</b>	<b>6.13</b>

# Examples of 1998 IBM Energy Conservation Projects

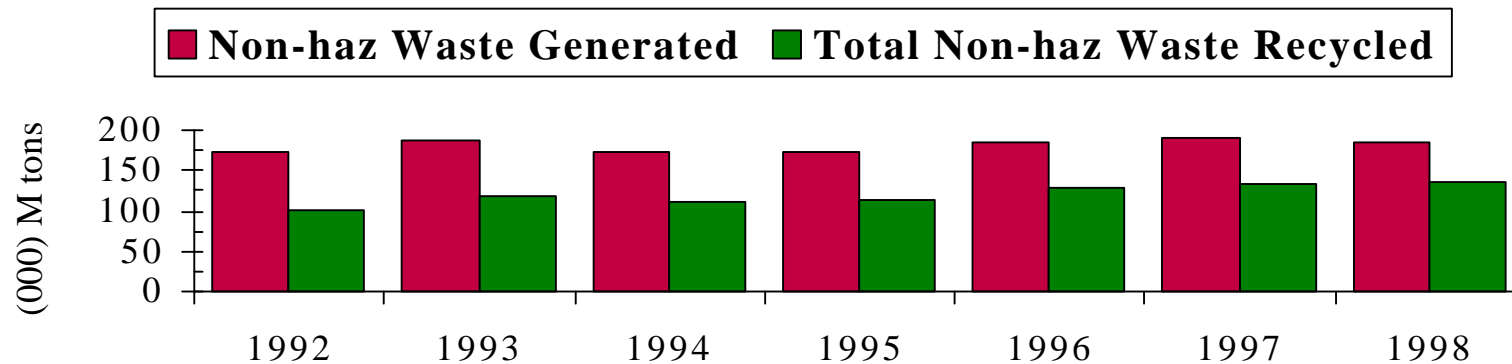
- **IBM Burlington**
  - Replace 500 "EXIT" signs of incandescent & fluorescent technology with signs of "Electroluminiscent" technology - saved 622,000 kWh/year
  - Improve system efficiency by increasing chilled water "Delta T" by 1.5 degrees & reduce pumping costs by 14% - saved 10,800,000 kWh
  - Replace early electronic (Andover) control system to DDC (Modicon) control system in an older building (962) - saved 495,000 kWh/year
- **IBM Boulder**
  - Updated its information technology infrastructure with CMOS-based machines and energy efficient DASDs - saved 14.3 Million kWh/year
  - Installed variable frequency drive on a 100 HP raised floor chilled water distribution pump - saved 1.1 million kWh/year
  - Replace 2700 - T12, 3 lamp lighting fixtures having magnetic ballasts with T8, 2 lamp lighting fixtures with electronic ballasts - saved 825,000 kWh/year
- **IBM Thomas J. Watson Research Center**
  - Re-roofed and re-insulated an existing concrete roof reducing heat gain/loss by over 556 MMBTU per year.
  - Replaced 150 existing steam mechanical traps (starting in 1996, 8 in 1999) with Steamgard staged venturi nozzle steam traps - saved @ 500 MMBTU/Trap/year.
  - Eliminated HVAC Summer hot water reheat - saved 8700 MMBTU/year.

# IBM Pollution Prevention Program Results - 1989 to 1998

## (Haz & Non-Haz Waste Generated & Total Recycled)



	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
<b>Hazardous Waste Generated</b>	180	163	135	95	85	93	69	63	49	56
<b>Total Waste Recycled</b>	156	141	115	76	71	78	54	49	39	46



\*This data is not adjusted for plant sales

	1992	1993	1994	1995	1996	1997	1998
<b>Non-haz Waste Generated</b>	172	188	173	172	186	191	185
<b>Total Non-haz Waste Recycled</b>	101	119	111	114	127	134	136